

Amendments to the Claims:

This listing of the claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1 (**Previously Presented**). A method for estimating the time-dispersion of a channel in a communications system, the channel comprising D subchannels, comprising:

computing, from a signal received over the channel in a receiver, a set of estimated Channel Transfer Factors (CTF's) $\hat{H}[v]$, where v ($0 \leq v < D$) is the subchannel number,

calculating, for a predetermined strictly positive integer d , a correlation factor C_d representing the correlations, both in amplitude and in phase, between pairs $\hat{H}[v]$ and $\hat{H}[v+d]$ of said computed CTF estimates, and

estimating, in said receiver, the time-dispersion of said channel using the calculated correlation factor C_d .

2 (**Previously Presented**). A time-dispersion estimation method according to Claim 1, wherein a normalized expression for said correlation factor C_d is:

$$C_d \equiv \frac{2 \cdot \left| \sum_v \hat{H}^*[v] \hat{H}[v+d] \right|}{\sum_v \left(\left| \hat{H}[v] \right|^2 + \left| \hat{H}[v+d] \right|^2 \right)},$$

where the sums over v are carried over available pairs of said computed CTF estimates.

3 (Previously Presented). A time-dispersion estimation method according to Claim 1, wherein a normalized expression for said correlation factor C_d is:

$$C_d \equiv \left(1 + \frac{1}{\zeta_u}\right) \frac{2 \cdot \left| \sum_v \hat{H}^*[v] \hat{H}[v+d] \right|}{\sum_v \left(\left| \hat{H}[v] \right|^2 + \left| \hat{H}[v+d] \right|^2 \right)},$$

where ζ_u is the mean channel estimation signal-to-noise ratio, and the sums over v are carried over available pairs of said computed CTF estimates.

4 (Previously Presented). A time-dispersion estimation method according to claim 1, further comprising a step of looking-up in a pre-constructed mapping table a value of channel excess delay τ corresponding to the value of said correlation factor C_d .

5 (Previously Presented). A time-dispersion estimation method according to claim 1, further comprising a step of adapting some link parameters as a function of the value of said correlation factor C_d .

6 (Previously Presented). A device (100) for estimating the time-dispersion of a channel in a communications system, the channel comprising D subchannels, the device comprising:

a receiver configured to compute, from a signal received over the channel, a set of estimated Channel Transfer Factors (CTF's) $\hat{H}[v]$, where v ($0 \leq v < D$) is the subchannel number,

a correlation unit configured to compute, for a predetermined strictly positive integer d , a correlation factor C_d representing the correlations, both in amplitude and in phase, between pairs $\hat{H}[v]$ and $\hat{H}[v+d]$ of said computed CTF estimates, and

a unit configured to estimate the time dispersion of said channel using the calculated correlation factor C_d .

7 (Previously Presented). A time-dispersion estimation device according to Claim 6, further comprising a parallel-to-serial unit (101) capable, when provided with a CTF vector $\hat{\mathbf{H}}$ as an input, of providing said correlations unit (102) with a series of individual CTF's $\hat{H}[v]$ classified by successive subchannel number v .

8 (Previously Presented). A time-dispersion estimation device according to Claim 6, wherein a normalized expression for said correlation factor C_d is:

$$C_d \equiv \frac{2 \cdot \left| \sum_v \hat{H}^*[v] \hat{H}[v+d] \right|}{\sum_v \left(\left| \hat{H}[v] \right|^2 + \left| \hat{H}[v+d] \right|^2 \right)},$$

where the sums over v are carried over available pairs of said computed CTF estimates.

9 (Previously Presented). A time-dispersion estimation device according to Claim 6, wherein a normalized expression for said correlation factor C_d is:

$$C_d \equiv \left(1 + \frac{1}{\zeta_u} \right) \frac{2 \cdot \left| \sum_v \hat{H}^*[v] \hat{H}[v+d] \right|}{\sum_v \left(\left| \hat{H}[v] \right|^2 + \left| \hat{H}[v+d] \right|^2 \right)},$$

where ζ_u is the mean channel estimation signal-to-noise ratio, and the sums over v are carried over available pairs of said computed CTF estimates.

10 **(Previously Presented)**. A time-dispersion estimation device according to claim 6, further comprising a look-up table (103), capable of providing a value of channel excess delay τ corresponding to the value of C_d .

11 **(Previously Presented)**. A time-dispersion estimation device according to claim 6, further comprising a link adapter responsive to the value of said correlation factor C_d .

12 **(Previously Presented)**. A modulated-signal reception apparatus, comprising a device according to claim 6.

13 **(Previously Presented)**. A telecommunications network, comprising at least one reception apparatus according to Claim 12.

14 **(Previously Presented)**. A data storage device, comprising a non-transitory computer readable storage medium storing computer program code instructions for executing steps of the method according to claim 1.

15 **(Previously Presented)**. A data storage means according to Claim 14, wherein the data storage device is partially or totally removable.

16 **(Previously Presented)**. A computer program stored on a non-transitory computer readable storage medium, comprising computer program code instructions such that, when said program is executed to control a programmable data processing device, said instructions cause said data processing device to implement a method according to claim 1.

17 (Previously Presented). A time-dispersion estimation device

according to claim 7, wherein a normalized expression for said correlation for factor C_d .

$$C_d \equiv \frac{2 \cdot \left| \sum_v \hat{H}^*[v] \hat{H}[v+d] \right|}{\sum_v \left(\left| \hat{H}[v] \right|^2 + \left| \hat{H}[v+d] \right|^2 \right)},$$

where the sums over v are carried over available pairs of said computed CTF estimates.

18 (Previously Presented). A time-dispersion estimation device

according to claim 7, wherein a normalized expression for said correlation for factor C_d is:

$$C_d \equiv \frac{2 \cdot \left| \sum_v \hat{H}^*[v] \hat{H}[v+d] \right|}{\sum_v \left(\left| \hat{H}[v] \right|^2 + \left| \hat{H}[v+d] \right|^2 \right)},$$

where ζ_u is the mean channel estimation signal-to-noise ratio, and the sums over v are carried over available pairs of said computed CTF estimates.

19 (Previously Presented). A time-dispersion estimation device

according to claim 7, further comprising a look-up table (103), capable of providing a value of channel excess delay τ corresponding to the value of C_d .

20 (Previously Presented). A time-dispersion estimation device

according to claim 7, further comprising a link adapter responsive to the value of said correlation factor C_d .